

J. Paul Levesque & Sons, Inc.)	Departmental
Aroostook County)	Findings of Fact and Order
Ashland, Maine)	Part 70 Air Emission License
A-489-70-C-A)	Amendment #1

After review of the Part 70 License amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	J. Paul Levesque (Levesque)
LICENSE NUMBER	A-489-70-C-A
LICENSE TYPE	Part 70 License Amendment
NAICS CODE	321113, 321999
NATURE OF BUSINESS	Sawmills, Kiln Drying
FACILITY LOCATION	P.O. Box X, Ashland, Maine 04732
DATE OF INITIAL LICENSE ISSUANCE	July 16, 2001
DATE OF AMENDMENT ISSUANCE	October 22, 2002
LICENSE EXPIRATION DATE	July 16, 2006

B. Project Description

Levesque has requested an amendment for the installation and operation of a new #2 oil fired, 29.3 MMBtu/hr boiler in order to increase steam supply to the mill's wood drying kilns. This will allow the facility to maintain desired production rate levels during the winter months. Additionally, the reduction in drying time during the winter months will also allow the mill to increase its annual throughput over current actual levels. However, at this time, Levesque is not proposing to increase the current drying kiln throughput limit of 100 million board feet per year contained in the current Part 70 Air Emission License.

The potential emissions increases resulting from the new boiler project consist of emissions from the new boiler, as well as increased VOC emissions from the drying kilns due to partial de-bottlenecking. Since Levesque's total drying kiln throughput is currently limited by the amount of steam supplied by the boiler house, the installation and operation of a new boiler will partially de-bottleneck

the existing kilns, thereby allowing for increased throughput. Potential increases in emissions due to the de-bottlenecked equipment must be added to the potential emissions from the new emission units in order to determine the project's total potential emissions.

The potential emissions increase from the drying kilns is determined by comparing the drying kilns' future potential emissions to their actual annual emissions over the previous two-year period, assuming this period is representative of normal operations, which is appropriate in this case. Therefore, the types and amounts of wood dried in the kilns from July 2000 to June 2002 has been used to quantify average actual emissions.

The current Part 70 Air Emission License does not restrict throughput of any particular wood species that may be dried in the kilns. However, given the relatively high VOC emission factor for pine, the project's VOC emissions would exceed the significant emission increase thresholds if the future potential emissions were based on 100% pine. Therefore, in conjunction with the current limit of 100 million board feet per year of combined species, Levesque requests a limit on pine of 10 million board feet per year. By capping the throughput of pine at 10 million board feet, the total licensed allowed facility-wide emissions will be significantly reduced.

C. Application Classification

A new emission unit at a major source is considered a major modification based on whether or not expected emissions increases exceed the "Significant Emission Increase Levels" as given in Maine's Air Regulations. The emissions increases for a new source are determined by the maximum future license allowed emissions, as follows:

<u>Pollutant</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
PM ₁₀	2.7	15
SO ₂	39.9	40
NO _x	28.2	40
CO	7.9	100
VOC	31.2	40

* Calculations may be found in the applicant's file, in the application dated August 5th, 2002.

Therefore, the modification is considered non-major for Levesque and has been processed as such.

D. Facility Emissions

Levesque shall be restricted to the following annual emissions, based on a 12-month rolling total:

Total Annual Emissions for the Facility
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Tons/Year</u>
PM	26.8
PM ₁₀	26.8
SO ₂	41.5
NO _x	35.0
CO	128.4
VOC	89.1*

* Represents total VOC emissions from the new #2 oil-fired boiler, the kilns (with new board feet restrictions), and emissions from the original wood-fired boiler. Levesque was previously licensed to emit up to 186.3 tons per year, however, with the new enforceable limit on the board feet of pine and the updated emission factors, this limit has been reduced significantly.

II. Best Available Control Technology (BACT)

To meet the requirements of BACT, Levesque shall meet the following:

SO₂

BACT for control of SO₂ emissions from the new boiler will be to limit #2 fuel oil sulfur content to 0.35% by weight.

NO_x

The new boiler shall meet a NO_x standard of 0.20 lb/MMBtu. Levesque will submit NO_x emission data, as recorded from a portable NO_x analyzer, within 30 days after startup of the new boiler. If annual fuel usage exceed 1,000,000 gallons per year, a NO_x emission stack test will be required. Levesque shall continue to annually stack test for NO_x emissions only if fuel use remains above 1,000,000 gallons per year based on a 12-month rolling total.

VOC

To determine VOC emissions from wood kilns has proven extremely difficult. Experts agree that EPA reference method testing for VOCs (namely Method 25A) from lumber drying kilns generally does not provide reliable and repeatable

results, making clear that a requirement for reference method testing of Levesque's kiln inappropriate and unnecessary. The concerns associated with applying Method 25A to lumber drying kilns are numerous, and include:

- condensation problems caused by the gas moisture content;
- the overwhelming of sampling and emissions analyzer equipment by the extremely high moisture content of kiln exhaust;
- difficulty in obtaining representative samples of emissions due to reversal of air flow through kiln openings, as well as fugitive emissions;
- non-repeatable and widely variable results from previously reported Method 25A drying kiln studies.

Therefore, the vast majority of VOC emissions from Levesque's wood kilns are estimated based on a conservative emission factor produced by the University of Maine for other lumber mills in the State. The emission factor is 1.28 lb of VOC per 1000 board feet for non-pine wood species. This factor, published by Dr. Rice in the November/December 1999 issue of the Forest Product Journal, entitled "Estimated VOC Losses During the Drying of Five Northeastern Wood Species", is considered conservative (worst-case). To estimate VOC emissions from pine, a conservative emission factor published by NCASI, 2.26 lb of VOC per 1000 board feet of pine, will be used. The VOC emissions are determined by using the appropriate emission factor (2.26 lb/MBF for pine or 1.28 lb/MBF of non-pine) multiplied with the facility's known measured quantity (board feet) of wood.

Since these emission factors are currently the most appropriate method for estimating kiln VOC emissions, Levesque will include them in the equation to determine compliance. If additional drying kiln emission studies are performed and additional data becomes available, it may be appropriate at some time in the future for the emission factors to be updated. However, any proposed changes to the current emission factors from what is used in this license would have to undergo a license revision.

Streamlining

Opacity

Levesque accepts streamlining for opacity requirements. Chapter 101, Section 2(A)(1) of the Department's regulations and Best Available Control Technology (BACT) requirements are applicable. The BACT opacity limit is more stringent. Therefore, only the more stringent BACT opacity limit is included in this license.

Particulate Matter

Levesque accepts streamlining for particulate matter requirements. Chapter 103 of the Department's regulations and BACT requirements are applicable. The

BACT particulate matter limit is more stringent. Therefore, only the more stringent BACT particulate matter limit is included in this license.

Sulfur Dioxide

Levesque accepts streamlining for sulfur dioxide requirements. 40 CFR Part 60, Subpart Dc, Chapter 106 of the Department's regulations, and BACT requirements are applicable. The BACT sulfur content limit is more stringent. Therefore, only the more stringent sulfur content limit is included in this license.

A summary of the emission rates for each of the pollutants is discussed below:

1. PM, PM₁₀, NO_x, CO and VOC emission rates are based upon manufacturer's emission data.
2. SO₂ emission rates are based upon a sulfur content of 0.35% by weight for #2 fuel oil.
3. Visible emissions shall not exceed 20% opacity on a six minute block average basis. Visible emissions requirement is based upon MEDEP internal guidance dated April 19, 2000.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-489-70-C-A subject to the conditions found in Air Emission License A-489-70-A-I, and in the following conditions:

The following condition replaces Condition (28) in air emission license A-489-70-A-I:

- (28) Levesque shall maintain monthly records of board feet (BF) of lumber processed in the kilns, by species, in addition to a 12-month rolling total. Levesque shall not exceed a limit of 100 million board feet per year of total kiln production based on a 12-month rolling total, and shall also not exceed a limit 10 million board feet per year of pine production in the kilns, based on a 12-month rolling total.

The following conditions are in addition to the existing conditions of Air Emission License A-489-70-A-I.

(42) Boiler #1

- A. Levesque is licensed to operate Boiler #1 which is licensed to fire #2 fuel oil, with a sulfur content not to exceed 0.35% by weight. [MEDEP Chapter 140, BACT]
- B. Emissions from Boiler #1 shall not exceed the following limits:

<i>Pollutant</i>	<i>lb/MMBtu</i>	<i>lb/hr</i>	<i>Origin and Authority</i>
PM	0.024	0.7	MEDEP Chapter 140, BACT
PM ₁₀	-	0.7	MEDEP Chapter 140, BACT
SO ₂	-	10.4	MEDEP Chapter 140, BACT
NO _x	0.20	7.4	MEDEP Chapter 140, BACT
CO	-	2.1	MEDEP Chapter 140, BACT
VOC	-	0.8	MEDEP Chapter 140, BACT

- C. Levesque shall operate Boiler #1 such that visible emissions from the stack do not exceed 20% opacity on a six-minute block average basis. [MEDEP Chapter 140, BACT]
- D. The stack for Boiler #1 shall meet a height requirement of at least 50 feet, which represents 60% GEP (Good Engineering Practice) stack height. [MEDEP Chapter 140]
- E. Levesque shall limit fuel use in Boiler #1 to 1,605,000 gallons per year of #2 fuel oil, based on a 12-month rolling total, with a sulfur content not to exceed 0.35% by weight. [MEDEP Chapter 140, BACT]
- F. Levesque shall submit NO_x emission data, as recorded from a portable NO_x analyzer, within 30 days after startup of the new boiler. If annual fuel usage exceed 1,000,000 gallons per year, a NO_x emission stack test will be required. Levesque shall continue to annually stack test for NO_x emissions only if fuel use remains above 1,000,000 gallons per year based on a 12-month rolling total. [MEDEP Chapter 140, BACT]
- G. Levesque shall meet the provisions of 40 CFR Part 60 Subpart Dc including initial notification and fuel supplier certification requirements. [40 CFR Part 60 Subpart Dc]

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(43) Wood kiln VOC emissions

Levesque shall limit VOC emissions from the wood kilns to less than 69 tons per year based on a 12-month rolling total. Levesque shall use the following equations to determine compliance with the above emission limit:

monthly VOC (pine) = (2.26 lb/1000 board feet) * (X board feet of pine/month)

monthly VOC (non-pine) = (1.28 lb/1000 board feet) * (X board feet of non-pine/month)

Total monthly VOC = VOC (pine) + VOC (non-pine)

(44) This amendment shall expire concurrently with air emission license A-489-70-A-I.

DONE AND DATED IN AUGUSTA, MAINE THIS _____ DAY OF _____ 2002.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: August 6, 2002

Date of application acceptance: August 9, 2002

Date filed with the Board of Environmental Protection _____

This Order prepared by Edwin Cousins, Bureau of Air Quality.